THE INSECT PEST SURVEY BULLETIN

A monthly review of entomological conditions throughout the United States

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OUTSTANDING ENTOMOLOGICAL FEATURES FOR JUNE, 1922.

In eastern and southern Nebraska a Hessian fly infestation has developed which is heavy enough to menace seriously the next sowing of wheat. In Kansas the second brood is manifesting itself much more seriously than was expected. In places as high as 25 per cent of the straw has fallen. The fly was discovered this year for the first time in Cheyenne County. This extends the fly-infested territory in Kansas to the Colorado State line.

Early in the month several local green-bug outbreaks developed in southern and eastern Nebraska. In Kansas this insect has seriously damaged oats over the entire State, and all spring grain has suffered heavy losses in Colorado, especially in the Arkansas Valley.

As was to be expected from the comparatively mild winter and the infestations which developed last year, the chinch bug has put in an appearance in the north-central States. About the middle of June it was reported from southern Michigan, late in May it was observed in large numbers in South Dakota, where it appeared in damaging numbers last year for the first time in the history of the State. It has also been reported as serious for the first time in about 20 years in the southeastern corner of Iowa in Lee County. The late emergence of the bugs, in the region of heaviest infestation last year, induced them to oviposit on young corn, and as a result the infestation of this crop so early in the season has already proved very disastrous. Reports of heavy egg laying by overwintered bugs in young corn have been received from Illinois and Kansas.

The bollworm is again appearing in heavy infestations in the South and being picked up in the northern produce markets on southern raised truck.

Grasshoppers are emerging in serious numbers in the Upper Peninsula of Michigan, western Nebraska, southwestern Ohio, and quite generally over Colorado.

The alfalfa weevil has very decidedly increased in the Reno district in Nevada near the California State line, several square miles of newly infested territory having been discovered this spring.

The clover-root curculio (Sitona hispidulus Fab.) has been found seriously damaging soybeans in Illinois, Indiana, and Missouri.

The rosy apple aphid is reported as unusually numerous in the New England and Middle Atlantic States as far north as Virginia and westward to Ohio.

The apple-tree tent caterpillar is very numerous in New England and New York while farther south this pest is noticeably less numerous than usual.

The pear-leaf blister mite has appreciably increased in abundance in Oregon and in the White Salmon District of Washington. In the Yakima Valley of the latter State it was reported for the first time as an apple pest last year. It also appears to be quite serious in western Missouri.

The grape leafhopper has again appeared in serious numbers in the lake grape regions of New York, Pennsylvania, and Michigan.

The potato aphid is very seriously abundant in eastern Virginia and parts of South Carolina where the loss is estimated to be as high as 30 per cent of the crop. In the northern States it is comparatively scarce so far this season.

The potato tuber moth is reported for the first time from Mississippi this month.

The cabbage maggot is reported serious in Essex County, Mass., and in several parts of New York State. It was observed this year for the first time in the 20 years experience of the State entomologist in Colorado.

The strawberry crown-miner is becoming so serious in the important strawberry region of Tennessee that it is now difficult to get a stand on account of this pest.

The Mexican bean beetle is being reported as a serious pest from several counties in Tennessee where last year it was found with difficulty.

Damage by the boll weevil throughout the cotton belt is undoubtedly more severe than it has been in years for this time of the year.

Brood XIII of the periodical cicada is well in evidence over most of its recorded territory. Brood XXI, however, is not in evidence in eastern Mississippi where it has been recorded in previous years.

The larch case-bearer is severely damaging important stands of larch in Maine, and the spruce budworm has destroyed over one-third of the matured spruce and fir in this State.

Thousands of acres of poplar are being defoliated by the forest tent caterpillar in Maine.

The European willow beetle was collected for the first time in Pennsylvania this spring and the native willow beetle is stripping willows along streams in parts of Indiana and Iowa.

The killing of young poultry by feeding on the rose-chafer is recorded from Massachusetts and New York.

I N S E C T P E S T S U R V E Y B U L L E T I N

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C E R E A L A N D F O R A G E - C R O P I N S E C T S

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

Nesbraska — M. H. Swenk (June 15). "Local losses, due to the attack of the Hessian fly, have become apparent as harvest approaches. Early in June considerable wheat in northwestern Furnas County began to show results of injury by this pest. Examination showed about 10 per cent infestation. In western Seward County much of the wheat has been injured noticeably, some cases to the extent of half the crop. Some early sown fields in southern Saunders County were going down badly by the middle of June, by which time reports of serious injury were also being received from Dodge County. The cool, backward spring has favored Hessian fly development and in many sections this pest is an actual menace to the grain to be sowed this fall."

Kansas — E. G. Kelly (June 16). "A very light infestation occurs over the eastern third of the State."

J. W. McColloch (June 20). "While very little infestation by the fly could be found during early spring there has been a marked increase in the appearance of the second brood. In some cases as high as 25 per cent of the stalks are going down. It is of particular interest to note that infested wheat was received from Cheyenne County in northwestern Kansas. This is the first time the fly has been taken in this County, our previous western limit being in the northeastern corner of Logan County. This means that practically the entire acreage devoted to wheat in this State is subject to outbreaks of the Hessian fly."

Oregon — L. P. Rockwood (June 13). "Infestation severe over a limited area in the Pleasant Hill section of Lane County and at Independence in Polk County. As a rule this season the earlier sown fall wheat is less infested than late-sown fall wheat, probably because the former made better growth before the advent of the unusually long dormant season. There are no signs of the second spring brood as yet."

GREATER WHEAT-STEM MAGGOT (Meromyza americana Fitch)

Nebraska — M. H. Swenk (June 15). " The greater wheat-stem maggot has not appeared in its usual abundance this year. Injury to grass heads, in some cases up to half of the heads in a field, was reported late in May from Frontier County, and an attack on young corn plants in Thayer County was noted toward the middle of June."

Missouri — A. C. Burrill (June 15). "In Cass, Shelby, Schuyler, and Caldwell Counties this insect is now very common. I judge that the epidemic is very nearly State-wide and the infestation runs from 1 to 5 per cent."

Kansas — E. G. Kelly (June 16). "A light infestation occurs over the eastern half of the State in wheat and rye."

Oregon — L. P. Rockwodd (June 13). "The spring brood of Meromyza punctifer Becker was out about May 20 in the Willamette Valley."

WHEAT MIDGE (Contarinia tritici Kirby)

Missouri — L. Haseman (June 10). "County Agent of St. Louis County reports that 30 per cent of more of the wheat is infested with the wheat midge."

GREEN BUG (Toxoptera graminum Rond.)

Nebraska — M. H. Swenk (June 15). "The cool, backward spring was probably responsible for several local outbreaks of the green bug. The first reports were received June 9 from Harlan County, five days later oat fields in Webster County were infested, and on June 10 fields in Sarpy County were found with the heads covered with green bugs."

Kansas — E. G. Kelly (May 27). "This pest has become unusually abundant during the past few weeks in southeastern and south-central Kansas. (June 5). "This pest has become very abundant on oats in the northeastern quarter of the State where the damage is estimated to be about 10 per cent." (June 20) "Oats have been damaged over the entire State."

Colorado — C. P. Gillette (June 21). "The green bug has caused heavy losses of spring grain, including wheat, oats, and barley, at least in the lower Arkansas Valley in this State and more especially in the dry farming sections in the extreme southeastern counties."

JOINTWORM (Harmolita tritici Fitch)

Illinois — W. P. Flint (June 17). "Much fallen straw in wheat fields in the central part of the State, due to damage by this insect. One field showed 99 per cent infestation and many fields over 50 per cent."

PALE WESTERN CUTWORM (Porosagrotis orthogonia Morr.)

North Dakota — R. L. Webster (June 20). "Damage to corn is now very evident, though this insect seems to be less serious this year than last."

CORN

CHINCH BUG (Blissus leucopterus Say)

Michigan — R. H. Pettit (June 14). "I have just received a letter from County Agent at Adrian, stating that chinch bugs are doing some damage right now in barley fields. This is the first record of the year of chinch-bug work."

Indiana — J. J. Davis (June 16). "Spreading abundance of this pest seems to be greatest in the northern half of the State. Probably no marked increase over last year in the southwestern corner of the State."

Illinois — W. P. Flint (May 17). "Owing to lateness of bugs moving out of winter quarters and the fact that many fields at that time had a heavy growth of grass, large numbers of eggs were deposited, resulting in a heavy infestation of young corn. Many fields have already been seriously damaged. First nymphs were observed in southern Illinois May 27 and in central Illinois May 29. The pest is in sufficient numbers to cause serious damage as far north as Peoria and Adams Counties."

Iowa — F. A. Fenton (June 8). "Chinch bugs have appeared for the first time in about twenty years in several places in Lee County." (June 12) "A wire from county agent in Lee County states that twelve reports of serious injury have come in. I visited this County June 6 and found chinch bugs damaging corn which was not over two inches high." (June 14) "Mr. Butcher writes from Lee County to the effect that chinch bugs are already present in corn and that there is going to be a hard fight."

South Dakota — A. L. Ford and L. M. Gable (May 25). "Last year chinch bugs appeared in South Dakota in damaging numbers for the first time in the history of the State. These bugs apparently wintered successfully and at present are working in large numbers on the winter grain."

Missouri — A. C.Burrill (June 17). "The chinch bug is much less serious than usual. A heavy downfall of rain about three weeks ago seems to have wiped out an outbreak that was very threatening."

Mississippi — R. W. Harned (June 17). "More complaints than usual were received during the past two months in regard to the chinch bug. Most of these complaints, however, came from the Delta section of the State. The abundance of these insects is probably due to the fact that we had an exceedingly dry summer and fall during 1921."

Kansas — E. G. Kelly (June 16). "Eggs are now hatching. Many eggs were deposited on corn this year, which is an unusual condition in this State. Wheat cutting is now under way and bugs are moving into the corn. No serious damage has been reported as yet. However, corn is unusually small for this season of the year and damage may be expected."

J. W. McColloch (June 20). "There is a large amount of injury to young corn and sorghum by chinch bugs throughout the eastern third of the State. This injury is rather unusual for this time of the year. The cool weather which prevailed during the early spring held chinch bugs in their winter quarters and gave wheat a heavy growth. Chinch bugs, on moving from winter quarters, settled on young corn and sorghum and in many cases have ruined entire fields. Young bugs are hatching at the present time in large numbers."

BOLLWORM (*Heliothis obsoleta* Fab.)

Massachusetts — H. T. Fernald (June 22). "A larva sent in from Bittsfield, where it was found on string beans that had been shipped in from the South, was reared and proved to be the corn earworm."

Illinois — W. P. Flint (June 17). "The first adult was taken at Urbana on June 13."

Tennessee — S. Marcovitch (June 8). "Found eggs and larvae on tomatoes in several localities in western Tennessee. Some worms are already full grown and considerable injury is showing up. Several truckers are spraying and the results are being watched."

Alabama — W. E. Hinds (June 19). "The roasting earworm or cotton bollworm appears unusually abundant and damage to corn and cotton is likely to be more than usual. Tomatoes are now suffering from the attack of this species."

Mississippi — H. W. Allen (June 10). "Early corn is carrying the usual heavy infestation of worms at the tips of the ears."

ARMYWORM (Cirphis unipuncta Haw.)

Virginia — K. M. King. "First eggs found this year were laid May 21, seven days earlier than last year. First eggs parasitized by Trichogramma minutum were observed on June 1."

Illinois — W. P. Flint (June 17). "Slight outbreaks in Monroe and St. Clair Counties. Damage not serious."

SUGAR-CANE BORER (Diatraea saccharalis Fab.)

Louisiana — T. H. Jones (June 17). "Severe injury was reported from Wilson on June 6 and from St. Francisville on June 7. In some instances I am told they are totally destroying whole fields. Two complaints have also recently been received from the vicinity of Baton Rouge. However, present indications are that this pest is not as serious as it was last year."

STALK BORER (Papaipema nitela Guen.)

Connecticut — Philip Garman (June 24). "Locally abundant at Whitneyville, in New Haven County."

Virginia — K. M. King (June 2). "This pest is very noticeably less abundant than last year."

Indiana — J. J. Davis (June 16). "The stalk borer has been reported more often than usual. Reports of injury to rye, corn, sweet potato, pepper, and tomato have been received."

Iowa — F. A. Fenton (June 20). "The stalk borer is very destructive to corn in several localities. It has been reported during the last week."

Missouri — A. C. Burrill (June 17). "Fulton, Callaway, and several other Counties reported this pest. Corn is very late and the worms are causing more apparent damage than usual.

GRAPE COLASPIS (Colaspis brunnea Fab.)

Indiana — J. J. Davis (June 16). "Grubs have been injuring corn at Connerville and Brookville. Reports coming in the first half of June were confirmed with specimens."

Illinois — W. P. Flint (June 17). "Attacking corn on fall-plowed clover sod generally over the western part of the State."

BRASSY FLEA-BEETLE (Chaetocnema pulicaria Mels.)

Virginia — K. M. King (June 2). "These pests have been found in every field of young corn examined, usually several beetles to the plant. Early corn was considerably retarded but is now outgrowing the injury."

Illinois — W. P. Flint (June 17). "An unknown species of flea-beetle is attacking corn in several counties, first plantings being destroyed in several cases."

Missouri — A. C. Burrill (June 17). "This pest is much more serious than usual, especially in Macon County where about half the corn leaves are badly riddled."

ROSE CHAFER (Macrodactylus subspinosus Fab.)

Indiana — H. F. Dietz (June 19). "The rose chafer was reported from Valparaiso as damaging a 15-acre field of young corn."

WIREWORMS (Elateridae)

New York — C. R. Crosby (May 29). "Larvae of Agriotes mancus Say were collected in a cornfield at East Aurora on May 21. On the same date larvae of Melanotus sp. were also found."

Nebraska — M. H. Swenk (June 15). "Injury to corn by the upland corn wireworm, Melanotus pilosus Blatch., developed to a considerable degree under the influence of the cool, backward spring in eastern Nebraska. In Madison County both early and late planted corn were considerably damaged by this wireworm by early June."

Missouri — L. Haseman (June 13). "Wireworms were reported as doing more serious damage than usual at Tipton and other localities."

Kansas — E. H. Kelly (June 16). "A very poor stand of corn, due to attack by wireworms, has been observed at many places over the eastern half of the State. Corn is unusually small for this time of the year."

MORMON CRICKET (Anabrus simplex Hald.)

Colorado — C. P. Gillette (June 21). "The Mormon cricket has been reported to be present in alarming numbers in portions of Moffat and Routt Counties in the northwestern corner of the State."

TWO-STRIPED GRASSHOPPER (Melanoplus bivittatus Say)

Nebraska — M. H. Swenk (June 15). "Grasshoppers began hatching in western Nebraska during the last week in May and have continued hatching numerously in many localities. By this time they are mostly hatched and the larger ones about one-third grown. So far they have been most threatening to crops in Scottsbluff, Morrill, and Sheridan Counties where active preparations are being made to fight them."

RED-LEGGED GRASSHOPPER (Melanoplus femoratus Burm.)

Michigan — R. H. Pettit (June 8). "Grasshoppers were appearing in the upper peninsula in enormous numbers. I have reason to believe they are Melanoplus femoratus."

CLEAR-WINGED GRASSHOPPER (Camnula pellucida Scudd.)

Oregon — B. B. Fulton (June 8). "All stages of grasshoppers are now present at Tule Lake in Klamath County, even a few adults. They are hatching in the strips of tule and moving into the grain crops, devouring every blade as they go." (June 10) "At Fort Klamath eggs are just hatching in small areas which are several inches higher than the general level. Many of the spots are still surrounded by water. Within these small areas the hoppers are thick enough to darken the ground."

GRASSHOPPERS (Undetermined sp.)

Iowa — F. D. Butcher (June 15). "Grasshoppers were found on May 20 in Cass and Montgomery Counties in sufficient numbers to warrant their being watched closely."

Colorado — C. P. Gillette (June 21). "A large number of complaints of grasshopper injuries are coming in from both irrigated and grazing areas in the State. The Department is putting out a concentrated grasshopper poison in which crude arsenic is used with banana oil in place of lemons or oranges, which is meeting with good success and for which we are having a large call."

EUROPEAN CORN-BORER (Pyrausta nubilalis Huebn.)

Massachusetts — H. A. Mostrom (June 10). "Many larvae wintered over in stubble. Eggs were in abundance on the under side of dock leaves during the latter half of May. There is every indication that the serious damage of last year will be repeated this season."

GREASY CUTWORM (Agrotis ypsilon Rott.)

Illinois — W. P. Flint (June 17). "Causing severe damage along many bottom lands which were overflowed earlier in the season. Owing to its subterranean feeding habits, poisoned bran mash is not effective in its control."

. . WEBWORMS (Crambus spp.)

New York — C. R. Crosby. "Adults of the silver-striped webworm Crambus praefectellus Zinck. were collected at trap lantern on May 26 and 31."

Minnesota — A. G. Ruggles (June 13). "In Olmstead County we seem to have an outbreak of the corn rootworm. We have not worked out the species of Crambus as yet."

ALFALFA

. . ALFALFA WEEVIL (Phytonomus posticus Gyll.)

Nevada — C. W. Creel (June 17). "This insect has very decidedly increased in the Reno district. At this date the majority are in the advanced larval stage and a few are pupating. The survey conducted cooperatively by the Nevada Quarantine Office and the Nevada Extension Service shows that the infested area has increased several square miles since last year. The insect is now present in the alfalfa fields from a point 1½ miles west of Reno to a point 20 miles east of the City. All fields in the Truckee Valley northof Reno as well as all fields to a point 3 miles south of Reno are infested." (June 20) "The infestation in White Pine County appears twice as severe as last year. I believe that general spraying will be necessary by 1924 in order to save the first crop. The majority of the insects in the Snake Valley are now in the advanced larval stage. Many cocoons and a few fresh adults are to be observed."

CLOVER

. . PEA APHID (Illinoia pisi Kalt.)

Wisconsin — S.B.Fracker (May 16). "This insect was still abundant in clover fields at Green Bay on this date. Migration to adjoining pea fields had begun."

Missouri — A. C. Burrill (June 15). "First adults found on red clover were observed on this date at East Petrie."

LESSER CLOVER-LEAF WEEVIL (Phytonomus nigrirostris Fab.)

Ohio — T. H. Parks (June 12). "While this insect has been present in Ohio for a decade it has been a serious pest to red clover only recently. Serious damage started in Van Wert County in 1918. In 1919 Shelby and Miami Counties suffered. In 1920 it had affected five or six counties in western Ohio. In 1921 it had extended eastward to the central counties and this year the damage is still extending eastward, the seriously infested area now extending from the northeastern border of the State southward to a line running along the northern border of Preble County to the northern border of Pickaway County and eastward to the eastern border of Franklin County to the eastern border of Erie County."

Illinois — W. P. Flint (June 17). "Damage by this pest is not as severe as in 1921 but is quite general over the entire State."

Oregon — B. P. Rockwood (June 13). "Found as far south as Albany on the east banks of the Willamette River. This point is as far south as the species has been found. It is more numerous than last year at Forest Grove but the parasite Bathyplectes exigua Grav. is much in evidence."

CLOVER-SEED MIDGE (Dasyneura leguminicola Lintn.)

Oregon — L. P. Rockwood (June 13). "First larva showing the pink tinge was found on June 6 at Forest Grove. Infestation about normal in the first crop of clover heads. Serious injury to the seed crop not anticipated."

CLOVER-LEAF WEEVIL (Hypera punctata Fab.)

Kansas — E. G. Kelly (June 6). "Considerable damage was done early in the spring over the eastern half of the State."

Oregon — L. P. Rockwood (June 13). "This insect has been a negligible factor this season, on account of unusual winter conditions, as this species has acquired the habit of wintering over in the adult stage and laying most of its eggs in the spring, in this region."

SOY BEAN

CLOVER-ROOT CURCULIO (Sitona hispidulus Fab.)

Illinois — W. P. Flint (June 17). "This insect is causing severe injury to soy beans on clover sod."

Indiana — J. J. Davis (June 27). "This insect has been reported from Clinton and Howard Counties as injuring soy beans. Last year it was reported as doing considerable damage to this crop in Clinton County.

Missouri — A. C. Burrill (June 16). "This insect has riddled 60 per cent of the leaves of soy beans grown in corn following blue-grass sod in Shelby County."

SORGHUM

SORGHUM WEBWORM (Celama sorghiella Riley)

Illinois — S. C. Chandler (June 3). "This insect is found in all rye fields in some parts of southern Illinois where from two to eight larvae are found to the head, 40 to 60 per cent of which are infested. The damage is very severe."

Missouri — A. C. Burrill (June 10). "Volunteer rye at Gordonville and Jackson is very seriously infested, 90 per cent of the heads containing larvae."

F R U I T I N S E C T S

APPLE

APPLE APHID (Aphis pomi DeG.)

Massachusetts H. T. Fernald (June 22). "This insect, which has not been abundant thus far, is now increasing in numbers."

New York C. R. Crosby and assistants. "These insects are now appearing in numbers in Nassau, Orleans, Chautauqua, and Columbia Counties. There is a possibility of a late infestation by this aphid."

Indiana J. J. Davis (June 16). "The green apple aphid has been frequently reported in unusual abundance the last few weeks."

Minnesota A. G. Ruggles (June 13). "We have found the green apple aphid doing considerable damage to apple trees in Washington County."

Missouri A. C. Burrill (June 15). "This insect is increasingly abundant in Caldwell County."

ROSY APPLE APHID (Anuraphis roseus Baker)

Massachusetts H. A. Mostrom (June 10). "Apple aphids are on the increase in Essex County."

H. T. Fernald (June 22). "The rosy apple aphid appeared in small numbers. During recent years it has been quite scarce in this region."

Connecticut M. P. Zappe (June 24). "A very serious outbreak developed during May and early June in New Haven County."

New York C. R. Crosby and assistants."The rosy apple aphid is appearing in rather large numbers in Chautauqua, Genesee, Wayne, Orange, Onondaga, Columbia, and Ulster Counties, where under favorable conditions it may produce serious injury. It is also present in small numbers in Greene County."

New Jersey M. D. Leonard (June 8). "Quite abundant at Pompton, especially on the leaves and terminal shoots, although the trees had received thorough dormant spraying."

Virginia W. J. Schoene (June 3). "We have received a number of reports of a very serious infestation of the rosy apple aphid in northern Virginia during the past few weeks."

Ohio H1 A. Gossard (May 26). "The rosy apple aphid has been received several times."

CODLING MOTH (Carpocapsa pomonella L.)

Massachusetts H. A. Mostrom (June 10). "Very little damage by this insect has been observed to date in Essex County."

New York C. R. Crosby and assistants. "From the first to the middle of the month the codling moth was pupating in Columbia, Wayne, Monroe, and Orleans Counties."

Indiana J. J. Davis (June 16). "The codling moth is apparently less abundant than in former seasons."

Illinois W. P. Flint (June 17). "The first pupa of the second brood was taken in southern Illinois yesterday."

C. P. Compton. "The first codling moth pupated in the insectary at Aurora on May 1. On May 20 the first adult emerged; 30 per cent of the adults had emerged by May 27, and practically all by June 1."

Kansas E. G. Kelly (May 26). "The first-brood eggs are just beginning to hatch. Sprayed orchards are not seriously attacked. (June 16). In the Arkansas River Valley district they are much more abundant than last year; unsprayed fruit was ppractically 100 per cent damaged, while good spraying gave a control of 90 to 95 per cent. The northeastern Kansas district was not heavily infested."

Oregon A. L. Lovett (June 14). "At Medford the first adults were observed on May 12, and eggs have been abundant since the 20th; the first larva was observed here on June 2. At Corvallis the first pupa was observed on May 22, and the first adult on June 1; eggs were very scarce up to June 14. At Hood River eggs were very generally deposited by June 14. A careful survey indicates about a 25 per cent hold over."

FRUIT-TREE LEAF-ROLLER (Cacoecia argyrospila Walk.)

Massachusetts H. A. Mostrom (June 10). "This insect has rolled a large proportion of the leaves in some orchards in Essex County."

New York C. R. Crosby and assistants. "Leaf-rollers are quite abundant in Genesee, Orleans, Rockland, Wayne, and Onondaga Counties."

Michigan R. H. Pettit (June 14). "The apple leaf-roller is reported as being present in Eaton County and it seems to be spreading over the State and becoming more numerous than ever before."

Oregon Leroy Childs (June 9). "This insect is doing considerable damage in many orchards. Experiments were made this spring with regular, double, and triple strength lead arsenate applied with large outfits equipped with coarse nozzles and using a pressure of 325 to 350 pounds; an average of 11½ gallons of spray was

used on 15-year-old trees. The spray was applied in both pink and calyx applications. Fair control where double and triple strengths were used; practically none where the ordinary strength was applied. This pest was much more serious in orchards not receiving an application of oil spray."

BUD MOTH (Tmetocera ocellana Schiff.)

New York — E. P. Felt (May 24). "Bud moths appeared in only very moderate numbers in eastern New York."

C. R. Crosby and assistants. "Many orchards seriously injured in Genesee, Orleans, and Monroe Counties."

APPLE AND THORN SKELETONIZER (Hemerophila pariana Clerck)

Connecticut — B. A. Porter (June 14). "Larvae of the first brood have completed feeding at Wallingford. Moths began to emerge in small numbers on June 7."

M. P. Zappe (June 24). "First-brood larvae have matured and adults have been flying about New Haven and Fairfield."

New York — E. P. Felt (June 23). "A marked extension of the infested area in New York State indicated by specimens received early in June from Ulster Park, Ulster County, there being a general infestation in one orchard at that place."

TENT CATERPILLAR (Malacosoma americana Fab.)

Massachusetts — H. T. Fernald (June 22). "An unusual abundance of tent-caterpillar nests appeared this year on Cape Cod."

H. A. Mostrom (June 10). "This insect is very abundant in Essex County. The wilt disease, however, has materially checked the infestation."

Connecticut — W. E. Britton (June 24). "This insect is considerably more abundant than last year in New Haven, Fairfield, Middlesex, Hartford, Tolland, and Windham Counties."

New York — C. R. Crosby and assistants. "Unusually abundant in orchards in Rockland County, and observed in unsprayed orchards in Seneca County."

E. P. Felt (May 24). "This insect appears to be abundant in parts of Ulster and Putnam Counties. It is also decidedly on the increase in Chenango County."

West Virginia — F. E. Brooks (May 19). "This insect is unusually scarce this year, only one tent having been observed this spring."

Missouri — A. C. Burrill (June 8). "This insect is appearing quite numerously along the Mississippi River bottom lands in Cape Girardeau County."

SPRING CANKERWORM (Paleacrita vernata Peck)

New York — E. P. Felt (May 24). "Cankerworms were extremely abundant in one orchard which was defoliated by them last year at Skaneateles in Onondaga County."

C. R. Crosby and assistants. "Quite abundant in Genesee, Seneca, Orleans, and Monroe Counties. The outbreak is associated with that of the fall cankerworm."

Iowa — F. D. Butcher (June 15). "Cankerworms are appearing in Wapello and Mahaska Counties."

Missouri — A. C. Burrill (June 8). "A very slight infestation appeared at Jackson this year."

FALL CANKERWORM (Alsophila pometaria Harris)

New York — J. B. Palmer (June 1). "Abundant in a young orchard at Ithaca."

New Jersey — R. B. Lott (May 27). "About 100 acres at Mendham were practically defoliated. Larvae are now almost mature and no additional damage is expected. Cankerworms are rarely troublesome in New Jersey."

Minnesota — A. G. Ruggles (June 13). "The fall cankerworm has not been as bad in the Minnetonka region as in former years, but has spread to the Twin Cities and 'way to the southern part of the State. In the latter area most of the complaints came from orchardists who had not done proper spraying."

Missouri — A. C. Burrill (June 2). "Some trees in Gentry County were completely defoliated. Insects have left the trees to pupate by the present date."

APPLE RED BUG (Heterocordylus malinus Reut.)

New York — E. P. Felt (May 24). "Red bugs are not noticeably abundant in southern Columbia County this year."

D. D. Ward (May 20). "One orchard badly infested in Onondaga County."

Pennsylvania — S. W. Frost (June 14). "We have been using nicotine dust in Adams County with great success against red bugs. The percentage of kill has been approximately the same as that secured by nicotine sulphate in the spray solution. We found, however, that the action of the dust is much quicker. We have also used derris in both the liquid and powder forms against red bugs and other insects. The solution worked as effectively as nicotine sulphate but we did not succeed in getting control with the powder form when used in solution."

FALSE APPLE RED BUG (Lygidea mendax Reut.)

New York — C. R. Crosby and assistants. "These insects are beginning to appear in Genesee, Chautauqua, Orleans, Onondaga, Ulster, Wayne, Rockland, and Monroe Counties. In some places they are producing considerable alarm."

Pennsylvania — S. W. Frost (June 14). "The false apple red bug has been numerous throughout the early part of the summer. The insects have transformed to adults, the first of the adults being found June 8."

Ohio — H. A. Gossard (May 26). "The false apple red bug is extending its range from local centers in northeastern Ohio and is beginning to take rank in some orchards as an apple pest of the first order."

ROSE LEAFHOPPER (Typhlocyba rosae L.)

New York — C. R. Crosby and assistants report this insect as beginning to appear in serious numbers in Tompkins, Wayne, Columbia, and Chautauqua Counties.

Pennsylvania — S. W. Frost (June 14). "These leafhoppers are becoming abundant on apple and their injury during the past week is becoming very noticeable."

Missouri — A. C. Burrill (May 18). "These insects are doing quite serious damage by spreading fire blight, and have all hatched within the past week."

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

New York — C. R. Crosby and assistants. "This insect is showing slight increase in Greene County and is also noticeable in parts of Columbia, Monroe, and Chautauqua Counties."

Indiana — J. J. Davis (June 16). "The seriousness of the San Jose scale situation remains unchanged."

Illinois — S. C. Chandler (May 26). "The first crawling young of the season was observed on May 26 at Olney."

Missouri — A. C. Burrill (June 8). "This insect is present in rather serious numbers at Jackson and Pressley. It has also been observed at Bloomfield and Poplar Bluff."

ROUND HEADED APPLE-TREE BORER (Saperda candida Fab.)

West Virginia — F. E. Brooks (May 19). "Considerable complaint in this locality of injury to young apple trees this spring by the round headed borer."

Missouri — A. C. Burrill (June 15). "Quite serious in parts of Caldwell County."

FLAT HEADED APPLE-TREE BORER (Chrysobothris femorata Oliv.)

Wisconsin — S. B. Fracker (May 19). "Ten per cent of the trees in a new orchard at Marinette are girdled, while from 10 to 20 per cent additional trees are infested."

PEAR

PEAR PSYLLA (Psylla pyricola Foerst.)

Massachusetts — H. T. Fernald (June 22). "Adults of the pear psylla were very abundant at Amherst on May 29."

New York — C. R. Crosby and assistants. "Psylla eggs had practically all hatched in the lake apple-growing region by May 20, and from the 25th to 27th adults of the first brood were appearing in Monroe, Columbia, and Wayne Counties."

PEAR-LEAF BLISTER MITE (Eriophyes pyri Pgst.)

New York — C. R. Crosby and assistants. "The pear-leaf blister mite was observed late in May and early in June in Monroe and Chautauqua Counties."

Missouri — A. C. Burrill (May 23). "This insect is appearing quite seriously in parts of Cass County. There may be a small epidemic starting in western Missouri."

Washington — E. J. Newcomer (June 14). "This pest was first discovered in the Yakima Valley last year as a pest of apple and has recently been found in several localities in the Valley."

Oregon — Leroy Childs (June 9). "A noticeable increase in abundance and spread of the blister mite on apples. No noticeable increase on pears; in fact, in all orchards, even on unsprayed trees, they are less abundant than last year. Reports from the White Salmon fruit district of Washington indicate that the blister mite on apple is widespread and causing serious damage to foliage and fruit."

CALIFORNIA PEAR SAWFLY (Gymnonychus californicus Marlatt)

Oregon — A. L. Lovett (May 24). "This insect is decidedly more numerous than usual at Medford, Grants Pass, Corvallis, and Hood River. The larvae were nearly mature at Medford on May 24, while on this date they were but about one-fifth grown at Corvallis. In orchards where the arsenate sprays were applied the larvae were scarce and the injury negligible."

PEAR SLUG (Caliroa cerasi L.)

Iowa — F. D. Butcher (June 15). "The pear slug is present in a few places near Ottumwa. In Wapello County it is doing a good deal of damage."

Oregon — A. L. Lovett (May 23). "Adult sawflies were observed ovipositing on this date. They seem to be in normal numbers."

PEAR MIDGE (Contarinia pyrivora Riley)

New York — E. P. Felt (May 24). "The pear midge appears to be somewhat generally distributed in the southern portion of Columbia County, infesting Clapps, though Seckels appear to be nearly immune."

C. R. Crosby and assistants report late in May and early in June that the pear midge has caused very serious losses in Milton, Ulster, and Columbia Counties, while less serious damage is being done in Genesee and Greene Counties.

PEAR BORER (Aegeria pyri Harris)

West Virginia — F. E. Brooks. "Considerable injury has been noticed this spring by the larvae of this species working in the bark of young apple trees."

PEACH

PEACH BORER (Aegeria exitiosa Say)

New York — R. G. Palmer. "Abundant throughout Chautauqua County, and causing considerable damage in some orchards."

Pennsylvania — S. W. Frost (June 14). "During the past year we have conducted some demonstrations with paradichlorobenzene. Treatments were made last fall and the borers dug early this month. Where the borers were dug last fall an average of 3.2 borers per tree were found, while [illegible] plots where paradichlorobenzene was used showed an average of only 0.4 borers per tree."

BLACK PEACH APHID (Anuraphis persicae-niger Smith)

Maryland — E. N. Cory (May 27). "This insect is seriously infesting peach trees at Glenburnie, and many of the trees are dying. We have recommended the use of one-half ounce of paradichlorobenzene per tree."

SAY'S BLISTER BEETLE (Pomphopoea sayi Lec.)

New York — C. R. Crosby and assistants. "This beetle was reported about the middle of June as doing very serious damage to cherry and peach in Livingston and Monroe Counties. It was also reported as doing less serious damage from Yates, Seneca, Schenectady, Washington, Broome, Tompkins, and Schuyler Counties."

CHERRY

CHERRY APHID (Myzus cerasi Fab.)

New York — C. R. Crosby and assistants report this insect rather numerous in Ulster, Columbia, and Monroe Counties.

Delaware — C. O. Houghton. "Trees which were covered with this aphid last year are entirely free from it this season."

Indiana — J. J. Davis (June 16). "This is one of the more common aphids recently reported."

Ohio — H. A. Gossard (May 26). "The black cherry aphid has been received two or three times."

Nebraska — M. H. Swenk (June 15). "In Nance and Merrick Counties the cherry trees were heavily attacked by the cherry aphid."

Missouri — A. C. Burrill (May 20). "The first bad case of the season was observed at Bloomfield to day."

UGLY NEST CATERPILLAR (Archips cerasivorana Fitch)

New York — E. P. Felt (June 23). "An unusual infestation of this insect on choke-cherry was noted early in the month in the western portion of Orleans County, a small group of shrubs being so badly infested that all of the leaves were devoured and the bushes literally shrouded in webbing."

PLUM

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Massachusetts — H. A. Mostrom (June 10). "This insect is particularly in evidence where early spraying was not attended to. Have noted some trees in Essex County with more than half of the fruit infested."

Connecticut — W. E. Britton (July 23). "This pest is apparently more abundant than usual in the New Haven and Middletown districts. Experiments carried on at Wallingford by Mr. E. M. Stoddard seem to indicate that spraying with atomic sulphur is somewhat effective."

New York — C. R. Crosby and assistants. "The plum curculio is causing serious damage in practically the entire fruit growing region of New York State, being equally destructive on plums, cherries, and apples."

New Jersey — M. D. Leonard (June 19). "Egg punctures are very abundant on apples at Pompton. Also doing damage to peaches at this place."

Missouri — A. C. Burrill (June 8). "A very serious infestation of plums and apricots is under way at Jackson, in many cases the entire crop being injured. Farmers say this is the worst attack they have ever had."

RASPBERRY

RASPBERRY SAWFLY (Monophadnoides rubi Harris)

New York — R. G. Palmer (June 7). "A 3-acre planting at Sheridan was very seriously infested, the bushes being practically defoliated."

Michigan — R. H. Pettit (June 17). "The raspberry sawfly is doing quite a bit of damage here in Michigan. It is very much worse this year than usual throughout the State."

Oregon — A. L. Lovett (June 14). "This insect is slightly more abundant than last year. The first larva was observed at Corvallis on May 25."

RASPBERRY FRUITWORM (Byturus unicolor Say)

New York — C. R. Crosby. "Mr. R. G. Palmer reports that these insects are doing damage in several sections of Chautauqua County, and Mr. Hammond reports that they have put in their appearance late in May in the Newburg section of Orange County."

RASPBERRY MAGGOT (Phorbia rubivora Coq.)

Oregon — A. L. Lovett. "This insect was very abundant during the latter half of May and the first half of June. Loganberry crowns showed lack of vigor this spring and in many cases failed to put out a normal number of canes, hence the injury to a few by this insect was more significant than might generally be true."

CURRANT

CURRANT APHID (Myzus ribis L.)

New York — C. R. Crosby and assistants report this insect during the first half of June and the latter part of May as very abundant in Monroe, Ulster, Oswego, Otsego, and Orleans Counties.

E. P. Felt. "Lodally abundant and injurious in parts of Rensselaer County."

IMPORTED CURRANT WORM (Pteronidea ribesii Scop.)

New York — C. R. Crosby and assistants report this insect as very destructive in several sections of Orange, Chautauqua, and Rockland Counties.

Nebraska — M. H. Swenk (June 15). "The imported currant worm continued its injuries on gooseberries and currants until June 1 when the injury stopped."

Missouri — A. C. Burrill (May 11). "This insect is reported as having destroyed the gooseberry crop two years in succession in Chariton County. It is now being controlled by arsenical sprays."

PECAN

PECAN PHYLLOXERA (Phylloxera spp.)

Mississippi — R. W. Harned (June 17). "Considerable attention has been attracted to phylloxera galls on pecan this spring. Apparently these insects have caused an extraordinarily large number of galls this season. Mr. T. L. Guyton of Harrisburg, Pas, has identified four species of Phylloxera among the specimens sent to him for determination. These are as follows: P. fovecla, P. devastatrix, P. perniciosa, and P. caryaecaulis."

Louisiana — T. H. Jones. "Phylloxera galls on pecans were sent in from Colfax and East Point during the latter half of May."

Texas — M. C. Tanquary (June 17). "This insect has been reported as being very abundant this year."

FALL WEBWORM (Hyphantria cunea Drury)

Mississippi — R. W. Harned (June 17). "Adults of the fall webworm were observed ovipositing on pecan leaves in considerable numbers at the Agricultural College as early as May 25. The indications are that these insects will be very numerous this year, probably more abundant than for several years. We believe that they are more numerous at the present time than we have ever noticed them this early in the season."

WHITE GRUBS (Phyllophaga sp.)

Mississippi — R. W. Harned (June 17). "We have received more complaints than usual in regard to May beetles injuring pecan trees."

GRAPE

ROSE-CHAFER (Macrodactylus subspinosus Fab.)

Massachusetts — H. T. Fernald (June 22). "The rose-chafer first appeared here on June 4."

Connecticut — W. E. Britton (June 23). "This insect has been reported as causing injury to garden vegetables and black and red raspberries in northern Litchfield County. It is less abundant than usual in Malborough, New Haven."

G. H. Hollister (June 22). "This insect is very serious in parts of East Hartford. It is attacking grapes, privet,

peaches, hydrangea, peony, rose, weigelia and in fact nearly all shrubs."

New York — C. R. Crosby and assistants report this insect as doing serious damage at Milton in Ulster County.

West Virginia — F. E. Brooks (May 20). "The first beetles appeared on this date. Only a few were observed on the blossoms of peonies."

Indiana — J. J. Davis (June 16). "The rose chafer has been abundant again this spring. Some of the recent reports included damage to peaches at Vincennes, to grapes at Fort Wayne and Vevay, and to apples at Aurora."

GRAPE LEAFHOPPER (Erythroneura comes Say)

New York — J. B. Palmer (June 7). "A very serious infestation has developed throughout the Chautauqua grape belt. The lower leaves have become so sickly and dry that the canes for next year are bound to suffer. These insects began to appear in numbers the latter part of May."

Pennsylvania — M. D. Leonard (June 15). "Adults are very abundant and considerable foliage injury is apparent at North East."

Michigan — R. H. Pettit (June 8). "Grape leafhoppers are now laying eggs and once in a while one finds a few nymphs just hatched."

GRAPE-BLOSSOM MIDGE (Contarinia johnsoni Sling.)

Michigan — R. H. Pettit (June 9). "It may be of interest to note that the grape-blossom midge was discovered for the first time in the Lawton grape belt today."

FIG

CITRUS MEALYBUG (Pseudococcus citri Risso)

Louisiana — T. H. Jones (June 9). "Some complaints of this mealybug on figs are reported from Baton Rouge."

COCONUT

COCONUT SCALE (Aspidiotus destructor Sign.)

Guam — C. W. Edwards, Guam Agricultural Experiment Station (May 21, 1921). "The most outstanding plant trouble that has come to our notice the past few years is the coconut scale which practically ruined the entire coconut industry of the neighboring island of Saipan. It was necessary for one to observe this outbreak at its height in order to appreciate fully the possible destructive character of this pest. Recently a letter was received from the Superintendent of Agriculture of Suva, Fiji, mentioning the presence in Fiji of Aspidiotus transparens (=destruct-

and stating that a chalcid parasite had been introduced to control this scale. The authorities in Saipan claim that the scale is now being parasitized. Recently I obtained material and forwarded it to the Department for identification. The question of a control parasite for this scale is one of very great importance to the coconut industry throughout the Orient."

T R U C K - C R O P I N S E C T S

GENERAL FEEDERS

CUTWORMS (Noctuidae)

Massachusetts H. A. Mostrom (June 10). "Cutworms are proving particularly troublesome this year in small gardens, much more so than usual in Essex County."

J. B. Boston (June 10). "Cutworms are much worse on garden crops in Barnstable County than usual. One man reports a net loss of $500 due to these insects on a 6-acre plat."

Connecticut M. P. Zappe (June 27). "These insects are very serious on early cabbage at Danbury."

New York C. R. Crosby and assistants. "Cutworms are very serious in Chautauqua, Monroe, Erie, and Clinton Counties."

Michigan R. H. Pettit (June 8). "Cutworms are perhaps worse than usual this year and we received reports that paper collars do not seem to work in all cases. I imagine the climbing cutworms are mixed in with the ordinary garden varieties."

Colorado O. E. Bremner (May 1). "Cutworms are very bad on tomatoes and young prune trees, eating out buds and leaves. They are also bad on grapes in Sonoma County."

WIREWORMS (Elateridae)

Oregon W. E. Pound (June 8). "The larvae of a species of Limonius have eaten radishes, onions, turnips, beets, beans, corn, cucumbers, and melons in the Umatilla district, the last four crops scarcely coming through the ground before they are destroyed."

New York C. R. Crosby (May 13). "Agriotes mancus Say is reported as injuring crops on muck lands at Elba. Associated with this outbreak is Melanotus sp."

BANDED FLEA-BEETLE (Systena taeniata Say)

Indiana — J. J. Davis (June 16). "Flea-beetles have been generally abundant and destructive to corn, tomatoes, and soybeans the past few weeks."

POTATOES AND TOMATOES

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Massachusetts — H. T. Fernald (June 22). "The Colorado potato beetle and the three-lined potato beetle, particularly the former, appear to be more abundant than usual. Mr. Mostrom reports that the egg-laying period was opening up rapidly on June 10 in Essex County."

Connecticut — W. E. Britton (June 23). "The potato beetle seems to be generally rather scarce in New Haven, Tolland, and Middlesex Counties."

New York — C. R. Crosby and assistants report that egg laying was well under way the first week in June in Chautauqua, Columbia, and Orange Counties."

New Jersey — M. D. Leonard (June 19). "Beetles are rather scarce at Pompton. Not much damage as yet."

Nebraska — M. H. Swenk (June 15). "The Colorado potato beetle appeared about the middle of May and is proving but normally abundant. In western Nebraska, where this pest was in many years not numerous enough to require spraying for its control, this year the potato growers are preparing a spray on a considerable scale."

Missouri — A. C. Burrill (May 20). "A light infestation occurs at Bloomfield. First larvae of the new brood appeared on this date." (June 17) "Spraying with lead arsenate is proving very effective in Schuyler County."

Kansas — E. G. Kelly (May 25). "This insect seems more abundant this year than usual. The first brood is now hatching."

Oregon — H. K. Dean (June 8). "This insect is much worse than usual in the Umatilla project. The larvae first appeared about June 6."

POTATO FLEA-BEETLE (Epitrix cucumeris Harr.)

Massachusetts — H. T. Fernald (June 22). "Flea-beetles of various species, but mainly the potato flea-beetle, were unusually abundant on June 19."

New York — C. R. Crosby and assistants. "These beetles are reported as doing serious damage in Chautauqua, Nassau, Columbia, and Orange Counties, where they are attacking potatoes, tomatoes, and cabbage seedlings."

New Jersey — M. D. Leonard (June 19). "Feeding holes numerous the latter part of May and early June but thorough spraying has given good protection."

Pennsylvania — S. W. Frost (June 14). "This insect has been found very abundant throughout Adams County this summer."

Indiana — J. J. Davis (June 16). "These insects have been found attacking corn, tomatoes, and soybeans."

Missouri — A. C. Burrill (May 19). "This insect is swarming on deadly nightshade and, undoubtedly, will do serious damage to garden crops in the Bloomfield section."

AUSTRALIAN TOMATO WEEVIL (Desiantha nociva Lea)

Mississippi — F. H. Chittenden (Monthly letter, Bur. of Ent. No. 97). "To date the new potato weevil is found in the Counties of Stone and Harrison in southern Mississippi by inspectors of the Mississippi State Plant Board. The infested area covers a strip of territory about 14 miles long and 5 miles wide."

CLAVATE TORTOISE BEETLE (Deloyala clavata Fab.)

New York — C. R. Crosby (May 31). "This insect was found eating tomato foliage in a garden at Ithaca."

(Editorial note: Mr. H. S. Barber has recorded in Proc. Ent. Soc. Wash., Volume XVIII, that this species has been reported as an enemy of the white potato as far back as 1870. Dr. W. D. Pierce found the species in Texas, breeding on Physalis cornuta. Both the larvae and adults are known to attack potato and bittersweet in Massachusetts. Dr. F. H. Chittenden has specimens collected on horse nettle (Solanum nigrum) at Glen Echo, Md. This species is also found in New Mexico, Arizona, Louisiana, Kansas, Missouri, Nebraska, Michigan, Kentucky, Massachusetts, Connecticut, Maryland, and Florida. The records from Nebraska, Kansas, and Missouri are uncertain.)

POTATO APHID (Macrosiphum solanifolii Ashm.)

Pennsylvania — S. W. Frost (June 14). "This aphid has not been found abundant on potatoes this summer."

New Jersey — M. D. Leonard (June 19). "This insect is comparatively scarce at Pompton this year. Only a few specimens have been found and these were parasitized."

Virginia — W. H. White (June 6). "The potato aphid has caused serious damage to potatoes on the eastern shore of Virginia. The aphid was particularly abundant in the vicinity of Onley and Eastville. The fungous disease was apparently checking the spread of this pest to a certain extent. The recent heavy rains have also been a factor in control. The principle damage was to the terminal shoots which were in many instances completely killed." (June 8) "The potato aphid has caused serious damage in the Norfolk section. At the present time a fungous disease is preventing its further spread."

South Carolinaa — A. N. Conradi (June 1). "County agent of Charleston County reports that this insect is exceptionally abundant this year where he estimates that the yield has been cut 30 per cent by this insect."

POTATO LEAFHOPPER (Empoasca mali LeB.)

New Jersey — M. D. Leonard (June 19). "Adults of this leafhopper are now fairly abundant about Pompton. They were first observed the early part of this month. No nymphs as yet or any sign of hopperburn."

Iowa — F. A. Fenton (June 20). "The potato leafhopper appeared in Lee County June 5 and in central Iowa June 12. The first spray was put on in southern Iowa Counties the week of June 12 and is being put on in central Iowa the week of June 19."

TARNISHED PLANT-BUG (Lygus pratensis L.)

Nebraska — M. H. Swenk (June 15). "Early in June a potato field in Richardson County became so heavily infested with the tarnished plant-bug that many of the plants wilted down and died, with occasionally a heavy loss in a field."

POTATO-TUBER WORM (Phthorimaea operculella Zell.)

Mississippi — R. W. Harned (June 17). "Recently larvae and pupae were collected from the stems of potato plants at McHenry. These were determined by Dr. F. H. Chittenden as possibly the potato-tuber moth. This is the first record we have of this insect occurring in Mississippi and may eventually prove to be some other species."

MITES (Rhizoglyphus sp.)

Nebraska — M. H. Swenk. "Shortly after the middle of May a field of early Ohio potatoes in Buffalo County became seriously attacked by mites to such an extent that about 20 per cent of the plants were badly hurt, the mites penetrating far up the stems of the plants from deep pits on the sides of the roots. Other fields of early Ohios in the vicinity were similarly but less seriously affected while none of this injury was observed on Cobblers."

CABBAGE

CABBAGE MAGGOT (*Hylemyia brassicae* Bouche)

Massachusetts — H. A. Mostrom (June 10). "This insect is quite serious in Essex County, some farmers losing rather a heavy percentage of the plants set out. Many of the larvae have already pupated."

New York — C. R. Crosby and assistants. "Late in May and early in June serious injury to cabbage was reported from Chautauqua, Monroe, and Nassau Counties."

Colorado — C. P. Gillette (June 21). "During my residence of more than thirty years in Colorado I have never seen or heard of a cabbage plant attacked by the cabbage maggot until recently when two complaints came to my office, one accompanied by a good-sized package of cabbage plants from a market near Denver that were ruined by this insect."

STRIPED FLEA-BEETLE (*Phyllotreta vittata* Fab.)

New York — C. R. Crosby and assistants. "Late in May these flea-beetles were reported as doing serious damage in Nassau County."

STRAWBERRY

STRAWBERRY WEEVIL (*Anthonomus signatus* Say)

New York — E. P. Felt (May 24). "Somewhat generally prevalent in Albany, Columbia, and Saratoga Counties where it has been doing quite serious damage to old beds, ranging from 10 to 50 per cent damage."

Barypeithes pellucidus Boh.

New York — E. P. Felt (June 23). "Mr. L. W. Jones and Mr. R. E. Horsey have both brought to my attention this weevil. It occurred only in small numbers at Rochester and Geneva."

STRAWBERRY CROWN-BORER (*Tyloderma fragariae* Riley)

Tennessee — S. Marcovitch (June 10). "The strawberry crown-borer is a well known pest of old strawberry fields but in Tennessee it was found very numerous in the mother plants set out this spring and interfering with the production of runners. This condition is becoming common in Tennessee and it is becoming difficult to obtain a stand, due to the work of this borer. Full grown larvae can now be found."

SPITTLE INSECTS (Cercopidae)

Oregon — A. L. Lovett. "This season they are strikingly abundant on both strawberries and cane fruits. They occur mostly about the crown of strawberries and about the base of the canes on loganberries. No really serious injury is apparent as yet in spite of their extraordinary numbers."

ASPARAGUS

ASPARAGUS BEETLE (Crioceris asparagi L.)

Massachusetts — J. B. Boston (June 10). "This insect is worse than ever. Chickens do good work but spraying is unsatisfactory. The crop is seriously injured in Barnstable County."

H. A. Mostrom (May 15). "Larvae are present and doing damage in unsprayed fields in Essex County."

New York — C. R. Crosby and assistants. "The common asparagus beetle is serious in Chautauqua, Orange, and Nassau Counties."

Ohio — H. A. Gossard (May 26). "Asparagus beetle larvae were appearing at Chillicothe during the third week of May."

Colorado — C. P. Gillette (June 21). "This insect was introduced in gardens at Boulder several years ago but only within the last year or two have complaints begun to come to this office of its appearance in gardens about Denver. The insect may be considered as established in the Denver-Boulder section now."

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

Tennessee — J. A. Kennedy (June 22). "This insect is eating up garden beans, entirely destroying a field in a few days at Dayton."

Miss M. Adsmend (June 19). "A new kind of weevil that has only been in this State a couple of years is destroying green beans. They multiply very fast and are about to destroy the bean crop at Spencer."

H. W. Andrews (June 16). "The Mexican bean beetle is doing a great deal of damage at Sparta and in adjoining counties."

Alabama — W. E. Hinds (June 19). "The Mexican bean beetle is increasing very rapidly and the damage is likely to equal that of 1921 when it amounted to 75 or 80 per cent of the normal yield of table beans in the Birmingham area."

Colorado — C. P. Gillette (June 21). "The Mexican bean beetle began to make its appearance in the Fort Collins district, according to our observations, on June 14 this year and was becoming fairly common by the 17th. It is a little later than usual this season."

PEAS

PEA APHID (Illinoia pisi Kalt.)

Massachusetts — J. B. Boston (June 10). "Generally bad in Barnstable County where spraying with nicotine sulphate was resorted to."

Connecticut — W. E. Britton (June 24). "Appeared in several fields about New Haven in the middle of June and did considerable damage."

New York — H. C. Odell (May 18). "Severely infested fields found yesterday in Nassau County." (May 27). "The pea aphid is doing very severe injury in many fields in Nassau County."

New Jersey — M. D. Leonard (June 19). "Present in small numbers about Pompton."

Delaware — G. A. Ely (June 1). "This insect cut the factory pea crop one-half in some cases about Greenwood. In others the crop was a total failure."

Maryland — E. N. Cory (May 16). "An outbreak of this insect on canning peas has developed at Betterton."

Indiana — H. F. Dietz (June 19). "The pea aphid has been very abundant on peas this spring."

CLOVER ROOT-BORER (Hylastinus obscurus Marsh.)

Oregon — A. L. Lovett (June 2). "Commercial plantings of garden peas in a small locality in Marion County were seriously attacked. This outbreak was undoubtedly due to adjacent fields of abandoned clover which were very heavily infested with this weevil."

CUCUMBER

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Massachusetts — H. T. Fernald (June 22). "The cucumber beetle is now badly riddling the plants."

Connecticut — M. P. Zappe (June 24). "This insect is much more numerous than usual about Burnside."

New York — C. R. Crosby and assistants report serious infestations of the striped cucumber beetle during the first week in June in Chautauqua, Nassau, and Onondaga Counties.

Maryland — J. A. Hyslop (June 15). "The striped cucumber beetle is much more abundant than usual in the southern part of Montgomery County, in many cases necessitating replanting."

New Jersey — M. D. Leonard (June 19). "These insects were observed attacking plants at Pompton about June 8."

Nebraska — M. H. Swenk (June 15). "The striped cucumber beetle has proven very plentiful during the past two weeks."

Mississippi — R. W. Harned (June 17). "The 12-spotted cucumber beetle and striped cucumber beetle have been causing considerable damage to melons in different parts of the State."

Missouri — A. C. Burrill (June 17). "The first report received from the northern part of the State came in today." (June 20) "Eggs have been laid within this week about Columbia."

Kansas — E. G. Kelly (June 6). "This insect is more numerous than usual this year. Egg laying has begun. Arsenate of lead is proving only a fair control."

Colorado — C. P. Gillette (June 21). "The striped cucumber beetle has been unusually destructive to canteloupes, cucumbers, and melons in the lower Arkansas Valley in Colorado the past spring. Some fields were so badly injured that it was necessary to plow under the plants."

MELONS

COTTON APHID (*Aphis gossypii* Glov.)

Nebraska — M. H. Swenk (June 15). "The melon aphid put in an appearance on cucurbits about June 10."

Kansas — E. G. Kelly (June 10). "Damage to melons great wherever no attempt was made to control these insects. Nicotine sulphate is only a fair control and is not at all successful without the addition of soap."

GARDEN SPRINGTAIL (*Sminthurus hortensis* Fitch)

Massachusetts — H. T. Fernald (June 22). "On June 6 these podurids were found in large numbers on cucumber and summer squash plants and more or less abundant on all types of seedlings and gardens."

New York — J. B. Palmer (May 22). "Four acres of melon seedlings were badly injured at Ithaca by the springtail."

SQUASH

SQUASH BUG (*Anasa tristis* DeG.)

Iowa — F. A. Fenton (June 20). "The squash bug is again appearing in destructive numbers and egg laying has begun."

Nebraska — M. H. Swenk (June 15). "The squash bug has proven very plentiful during the past two weeks."

Missouri — A. C. Burrill (June 20). "This insect is much more numerous than last month. Egg laying has been going on for two days and is now becoming general."

ONIONS

ONION MAGGOT (*Hylemyia antiqua* Meig.)

Connecticut — J. A. Manter (June 22). "This insect is doing much damage in gardens about Storrs."

New York — M. C. Hammond (May 27). "A light infestation is manifesting itself in Orange County."

Indiana — J. J. Davis (June 16). "The onion maggot is quite abundant in the State wherever onions are grown."

Oregon — A. L. Lovett (June 2). "As a whole this insect is much less abundant than usual. In demonstration plots where the British Columbia method of using cull onions as a lure for the adult flies was employed field infestation was slight. Cull and volunteer onions of the proper type showed from 50 to 500 eggs, and counts running as high as 437 maggots in a cull onion were made, many showing over 200 maggots. The idea of cull onions in onion maggot control is good. Our technique this year is faulty, as the majority of the culls were planted too shallow to be the best lure. The majority of the generation of onion maggots were nearly mature larvae on June 2; probably 4 per cent had pupated and adult flies and eggs were not uncommon."

ONION THRIPS (*Thrips tabaci* Lind.)

New York — G. E. Smith (May 17). "Onion thrips injury was observed on onions on the Genesee-Orleans muck tract."

Wisconsin — S. B. Fracker (May 20). "Unusual damage occurred about May 1 in the Green Bay district. The infestation was reduced by weather conditions and the injury was mostly outgrown by 'set' onions."

GARDEN SPRINGTAIL (Sminthurus hortensis Fitch)

Massachusetts H. T. Fernald (June 22). "On May 27 complaints of the work of a podurid were received from Sunderland and on examination they were found present in extreme abundance. A survey of the Valley showed them present in every onion field from the northern limits at Sunderland to the Holyoke Range, a distance of about 10 miles, and across the Valley throughout the limits of onion growing, a distance of about 5 miles. The exact nature of their effect could not be satisfactorily determined but on the smaller plants in some cases half of them were destroyed. Older stands showed less injury and seemed to be able to outgrow the damage."

BEETS

BEET ROOT-[illegible] (Pemphigus betae Doane)

Colorado C. P. Gillette (June 21). "Recently the agriculturist of the Great Western Sugar Company in Fort Collins took me to a field of beets that were just being thinned and that were looking badly. A thorough examination convinced us that the beets were suffering severely from the attack of the beet root louse which was present on the roots of most of the little beets. The agriculturist told me that a near-by field was plowed up because of injury by this louse that had lived over winter in the ground."

COTTON

BOLL WEEVIL (Anthonomus grandis Boh.)

South Carolina — A. F. Conradi (June 1). "County agent in Lancaster County reports that there has been a very heavy increase of this pest which came out of hibernation during May. The insect is also reported as very abundant in Barnwell County, and 30 per cent more numerous in Fairfield County."

Alabama — W. E. Hinds (June 19). "Showed up in immense numbers from hibernation shelter, and prospects for damage are very serious at the present time. Infestation now as heavy as in any preceding year. Interest in dusting with calcium arsenate is increasing rapidly."

Mississippi — R. W. Harned (June 17). "At most places throughout Mississippi the boll weevil appeared earlier than usual this year and occurs in larger numbers than have previously been observed this early in the season. Everything indicates that more boll weevils hibernated successfully than during any previous winter since the insect reached Mississippi. This agrees with observations made by the Bureau of Entomology in Louisiana and other States."

Texas — M. C. Tanquary (June 17). "Our correspondence indicates that there is an unusually heavy and general infestation of the boll weevil this spring. Cotton planting was very much delayed by heavy spring rains. There will be a great deal of dusting with calcium arsenate this season."

COTTON RED SPIDER (Tetranychus telarius L.)

Alabama — W. E. Hinds (June 19). "The red spider is unusually abundant, destroying beans and other garden truck. The outlook is for an unusual outbreak on cotton a little later in the season."

STALK BORER (Papaipema nitela Guen.)

Mississippi — R. W. Harned (June 17). "The stalk borer has been reported as injuring cotton from several places. This insect appears to be especially abundant this spring."

WINGLESS MAY BEETLE (Phyllophaga cribrosa Lec.)

Texas — M. C. Tanquary (June 17). "The wingless May beetle has been reported from several different locations as doing considerable injury to cotton."

TOBACCO

TOBACCO FLEA-BEETLE (Epitrix parvula Fab.)

Tennessee — A. C. Morgan (May). "The tobacco flea-beetle has been unusually prevalent upon seed beds and on newly set tobacco plants in Tennessee."

Florida — A. C. Morgan (May). "The tobacco flea-beetle has not been unusually numerous at Quincy station although control measures have been necessary."

CORNROOT WEBWORM (Crambus caliginosellus Clem.)

Tennessee — A. C. Morgan (May). "The so called "wireworm" is attacking young tobacco plants in the field. Many fields are so badly attacked that an almost complete resetting will be necessary. It is only occasionally that this pest is severe in this district."

BUDWORM (Chloridea virescens Fab.)

Florida — A. C. Morgan (May). "The budworm is a primary pest, and is as numerous as usual about Quincy."

HORNWORMS (Protoparce spp.)

Florida — A. C. Morgan (May). "The hornworms are just beginning to appear in rather more than ordinary numbers in the Quincy district."

SUGAR CANE

ANOMALA (Anomala orientalis Waterh.)

Connecticut — W. E. Britton (June 8). "The location where the anomala was discovered in Connecticut has been used as a nursery sales ground for several years. It is now being cut up for building purposes and I doubt if very much can be done in the way of exterminative measures. Possibly the changes now taking place on the land will accomplish as much as anything that we could do to wipe out the pest."

SUGAR-CANE BEETLE (Euetheola rugiceps Lec.)

Mississippi — R. W. Harned (June 17). "We have received several complaints in regard to the rough-headed corn stalk-borer damaging sugar cane and corn. These complaints have come from several different sections of the State."

A NEW SUGAR CANE BORER (Noctuidae)

Mississippi — T. E. Holloway (June 30). "A new lepidopterous borer has been found in sugar cane in southern Mississippi by Mr. E. K. Bynum of the Mississippi Plant Board and the writer. It is larger than the sugar cane moth borer, Diatraea saccharalis, and has structual differences. It is white in color, with the dorsum strikingly pink. Larval specimens have been submitted to Mr. Carl Heinrich, who reports "Noctuid unknown to me. Very interesting." The new borer seems capable of inflicting even more damage than Diatraea, judging from its size and the size of its tunnels, but while apparently distributed over a fairly wide area it is rather scarce in any one place. An inspector for scouting work has been employed on funds of the allotment for sugar cane insect investigations. He will work in cooperation with the Mississippi Plant Board."

FOREST AND SHADE-TREE INSECTS

GENERAL FEEDERS

PERIODICAL CICADA (Tibicina septendecim L.)

Brood XIII

West Virginia — W. E. Rumsey (June 10). "On May 30 I heard a periodical cicada singing in my backyard at Morgantown. On June 4 a specimen was taken about 5 miles east of Morgantown and brought to the entomological laboratory with a report that two or three more were singing at the time the specimen was taken."

Indiana — J. J. Davis (June 16). "Observed the 17-year cicada fairly abundant at Munster, in Lake County. It was first noticed a week or two ago but has been most abundant and conspicuous the last few days."

Illinois — Harriet F. Holmes (May 18). "My farm is at Batavia on the Fox River about 35 miles due west from Chicago and the farmers in this neighborhood, while plowing, report finding large numbers of what they called the 17-year locust."

W. A. Rogers (June 3). "Millions of what appear to be 17-year locusts are coming out of round holes in the ground and climbing trees at Lisle. Thus far they do not seem to have done any damage."

W. P. Flint (June 6). "Adults have been taken at points in the north of Green County and in Macon and Champaign Counties. It is, apparently, abundant all over the State north of a line drawn through these points."

E. M. Ball (June 6). "They are in swarms in my yard in Chicago."

Mrs. J. A. McDonald (June 8). "The locusts seem to have arrived in great numbers at Streator, especially in the cemeteries, where there are mostly oak trees."

Mrs. D. M. Mertz (June 9). "This insect seems to be very much in evidence in DuPage County."

J. E. Hamilton (June 9). "This pest is appearing in great numbers about Rockford."

Iowa — F. A. Fenton (June 8). "This pest has already appeared in several localities in this State, namely: Scott, Benton, and Jackson Counties." (June 12) "In addition to above Counties this insect has appeared in Clayton and Muscatine Counties." (June 14) "The last report comes from Dubuque County."

Brood XXI

Mississippi — R. W. Harned (June 14). "Although we have made a special effort to obtain cicadas, so far this season we have not received any of the 13-year brood from the eastern border of the State where they are supposed to occur this year. We have received two specimens that were collected near Pelahatchee, in Rankin County. This extends the known distribution of this brood of the westward as Pelahatchee is close to the center of the State."

JUNIPER

JUNIPER WEBWORM (Dichomeris marginellus Fab.)

Connecticut — T. H. Hollister (June 22). "This insect is quite serious in Hartford parks. Spraying with arsenate of lead at the rate of 5 pounds of lead arsenate to 50 gallons of water is being done now."

W. E. Britton (June 12). "This species was received from Greenwich."

ARBORVITAE

ARBORVITAE LEAF-MINER (Argyresthia thuiella Pack.)

Connecticut — W. E. Britton (June 24). "This insect is still present about New Haven though apparently less abundant than last year. It has also been received from New Canaan and from Wakefield, R. I."

. BAGWORM (Thyridopteryx sphinxraeformis Haw.)

Louisiana — T. H. Jones (June 1). "Sent in from DeRidder where they are said to be doing severe damage to trees in a park."

BIRCH

. . BRONZE BIRCH BORER (Agrilus anxius Gory)

Connecticut — W. E. Britton (June 24). "Several trees have died from last years' attack in New Haven and Derby. A large number of beetles were reared from the infested wood."

. . ALDER BORER (Saperda obliqua Say)

West Virginia — F. E. Brooks (May 19). "A number of small black birch are being injured by the larvae of this species boring in the trunks at the surface of the ground."

ELM

. . ELM LEAF-BEETLE (Galerucella luteola Muell.)

New York — E. P. Felt (June 23). "Overwintering beetles and larvae were observed in Rochester on May 30, and about June 10 the infestation in the vicinity of New York City and the Hudson Valley appeared to be relatively light, eggs and half-grown grubs being noted the latter part of the month."

Oregon — A. L. Lovett (June 14). "This pest appears to be more abundant than usual in the Willamette Valley. First adults were observed on May 9, first eggs on May 25, and larvae on June 3. The infestation is heavy enough to defoliate the trees completely within the next three weeks."

. . WOOLLY ELM APHID (Eriosoma americana Riley)

New York — E. P. Felt (June 23). "This aphid has been the cause of several complaints from various sections of the State."

Indiana — H. F. Dietz (June 15). "The elm leaf-curl aphid has been very abundant at Indianapolis."

Nebraska — M. H. Swenk (June 15). "The unusual abundance of woolly elm aphids was first noticed early in June."

. . COCKSCOMB ELM-GALL (Colopha ulmicola Fitch)

New York — C. R. Crosby. "Infestation of elm trees by this aphid has been reported from Morton, Auburn, Mallory, and Tonawanda."

Indiana — J. J. Davis (June 16). "This is among the more common aphids recently observed."

Massachusetts — H. T. Fernald (June 22). "The elm scale has appeared more abundant than for several years."

ELM CASE-BEARER (Coleophora limosipennella Dup.)

New York — E. P. Felt (June 23). "The elm case-bearer is locally abundant and injurious over a considerable area on Long Island and southern Westchester County. Groups of trees and bushy wayside growths are badly infested. The insect displays a marked preference for English and Scothh elms."

LARCH

LARCH CASE-BEARER (Coleophora laricella Huebn.)

Maine — H. B. Pierson (June 23). "Large areas of larch are being severely injured by the larch case-bearer. This European leaf miner is so numerous that the larch stands already appear as if they had been swept by fire. The moths began flying about June 21 and there is every indication of a second brood appearing."

FIR

SPRUCE BUDWORM (Tortrix fumiferana Clemens)

Maine — H. B. Pierson (June 23). "The spruce budworm which in the past ten years has destroyed over one-third of the mature spruce and fir in the State, has been found working in a large number of localities this year."

MAPLE

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Connecticut — W. E. Britton (June 24). "This insect has infested silver maple street trees in one part of Stamford for several years and treatment has been necessary."

Indiana — F. N. Wallace (June 19). "The cottony maple scale appears to be a serious pest in the cities and towns in the northern part of the State."

Minnesota — A. G. Ruggles (June 13). "The cottony maple scale continued to be abundant in certain sections of the State where they are particularly working on boxelder."

Illinois — W. P. Flint (June 17). "Extremely abundant on maple and boxelder in central and northern Illinois."

New Jersey — E. P. Lott (June 15). "Abundant on silver maple at Summit."

Louisiana — T. H. Jones (June 10). "Heavily infested material with egg

masses containing young sent in from Shreveport."

MAPLE CHAITOPHORUS (Periphyllus lyropicta Kies.)

Indiana — J. J. Davis (June 19). "This insect has been observed in various sections of the State, particularly central Indiana, on hard and Norway maple."

SUGAR-MAPLE BORER (Glycobius speciosus Say)

New York — E. P. Felt (June 23). "Is generally prevalent in Williamsville, Erie County. This locality has been under observation for more than twenty years. The more seriously affected trees of earlier years have succumbed and practically every sugar-maple of six inches diameter or more shows signs of considerable injury. A few trees were in such bad condition that two-thirds of the lower part of the larger limbs and upper part of the trunk had rotted away. The insect is generally distributed throughout the State."

BOXELDER

BOXELDER APHID (Periphyllus negundinis Thos.)

North Dakota — R. L. Webster (June 20). "This pest seems to be abundant wherever the boxelder is grown."

Nebraska — M. H. Swenk (June 15). "In the more western counties during the first half of June the boxelder aphid was unusually plentiful."

OAK

TWO-LINED CHESTNUT BORER (Agrilus bilineatus Weber)

Pennsylvania — J. K. Primm (June 12). "The two-lined chestnut borer has been the cause of more inquiries than any other pest occurring on oak. Many fine trees in the vicinity of Philadelphia are infested, especially English oak. In nurseries Pin Oak, Scarlet oak, and Black oak are attacked. In a block of 475 Red oaks 236 were found infested. Nursery trees of 2 to 3 inches diameter are soon killed by this pest. Adults are now emerging."

PINE

PALES WEEVIL (Hylobius pales Herbst)

Maine — H. B. Pierson (June 23). "The pine weevil is very abundant in the southern part of the State."

WHITE-PINE WEEVIL (Pissodes strobi Peck)

Maine — H. B. Pierson (June 23). "The white pine weevil is very abundant in the southern part of the State."

EUROPEAN PINE-SHOOT MOTH (Evetria buoliana Schiff.)

Pennsylvania — J.K.Primm (June 5). "Three cases of Scotch pine at Morrisville, in Bucks County, are the only known infestation in this State. These trees are eleven years old. In the summer of 1920 our counts gave an average of 15 to 20 infested buds per tree. Early in the spring of 1921 several bushels of infested buds were gathered and burned. In late June a heavy application of 9-1 sulphur dust was given. These treatments materially reduced the amount of infestation. In April of the present year the trees were again given a thorough inspection and as many infested buds as could be found were destroyed. On the 5th of June 100 trees were inspected and only 20 infested buds were found. On this date the first adult was taken from a rearing cage."

PINE LEAF-MINER (Paralechia pinifoliella Chamb.)

Massachusetts — H. T. Fernald (June 22). "The pine leaf-miner is unusually abundant in the Cape Cod section of the State."

EUROPEAN PINE SAWFLY (Diprion simile Hartig)

Pennsylvania — J. K. Primm (June 12). "This insect is known to occur in a limited area in the southeastern section of the State. It has a pupal parasite which is very effective in its control and although it has been under observation for four years in this State it does not appear to have increased in numbers."

EUROPEAN WEB-SPINNING RED SPIDER (Paratetranychus uniunguis Jacob)

Connecticut — P. Garmen (June 24). "What is apparently this species is increasing in nurseries from year to year in New Haven County where it is attacking spruce and red pine seedlings and doing considerable damage."

POPLAR

FOREST TENT CATERPILLAR (Malacosoma disstria Huebn.)

Maine — H. B. Pierson (June 23). "Thousands of acres of poplar are being completely defoliated by the forest tent caterpillar, which is unusually abundant this year as was also the apple tent caterpillar earlier in the season."

POPLAR BORER (Saperda calcarata Say)

Nebraska — M. H. Swenk (June 15). "Throughout the period covered by this report (May 15-June 15) the poplar borer has been much complained of."

WILLOW

EUROPEAN WILLOW BEETLE (Plagiodera versicolora Laich.)

Connecticut — F. A. Bartlett. "This pest has apparently come over from New York State. Last year a few were noticed in Greenwich and this year it has been found in Stamford. Many trees are slightly injured while some are nearly defoliated."

New York — E. P. Felt. "The imported willow leaf-beetle occurs generally on Long Island and in southern Westchester County and about the middle of the month had seriously injured groups of willows. The insect occurs on black willow, golden willow, and weeping willow."

Pennsylvania — J.K.Primm (June 8). "Adults, larvae, and nymphs were found in some numbers on two large willows at Chestnut Hill, in Philadelphia County. This is the first record of its occurrence in the State."

INTERRUPTED COTTONWOOD LEAF-BEETLE (Lina lapponica L.)

Indiana — F. N. Wallace (June 19). "This insect was observed very abundant, defoliating willows along streams in Morgan and Brown Counties, on May 14 and 15."

H. F. Dietz (June 19). "Has been doing considerable damage to weeping willow and Lombardy poplar in and about Indianapolis. The first brood was reported as doing damage between May 20 and June 10 and the second-brood damage is just beginning."

Iowa — F. D. Butcher (June 18). "Throughout the southeastern quarter of the State, from Decatur County north to Polk and southeast to Wapello, Henry, and Lee Counties, this insect is stripping the willows."

PLANT INSECTS

BOXWOOD

BOXWOOD LEAF-MINER (Monarthropalpus buxi Labou.)

New York — E. P. Felt (June 23). "The box leaf-miner is well established on Long Island and in southern Westchester County, occurring in enormous numbers on groups of box and causing serious injury. The flies began to emerge about the middle of May, most of them coming out in immense swarms within a few days, though a few remained in the larval stage until June 16. The best control at Port Chester was secured by using 6 pounds of molasses to 50 gallons of water and making applications every other day."

New Jersey — Richard Hüizing (June 1). "This pest is proving quite serious to boxwood at Eatontown and Elberon."

Pennsylvania — J. K. Primm (May 11). "This is the worst pest of box where it occurs and is now invading nurseries and private estates in Montgomery County which were free from it two years ago. Adults began to emerge May 1 in 1921 and on May 8 this year. The dwarf box, Buxus suffructicosa, is nearly immune from attack, but other varieties may be heavily infested. It is now quite generally distributed throughout Philadelphia, Bucks, Montgomery, Chester, and Delaware Counties of this State."

AZALEA

AZALEA LACEBUG (Stephanitis pyrioides Scott)

Pennsylvania — J. K. Primm (May 27). "Marked browning of leaves is noticeable at this early date on hardy azaleas. In 1921 many azaleas were defoliated in southeastern Pennsylvania due to this insect. Specimens of the evergreen varieties succumb to this attack when not sprayed in time. Nicotine sulphate, 1 part, to 500 parts water is an effective control."

LILAC

LILAC BORER (Podosesia syringae Harris)

New York — E. P. Felt. "Mr. R. E. Horsey reports that the lilac borer (Trochilium denudatum) is so serious in the lilac collection in Rochester Parks that it is necessary to go over the bushes carefully to remove breakage."

RHODODENDRON

RHODODENDRON BORER (Sesia rhododendri Beut.)

Connecticut — G. H. Hollister (June 22). "This insect was first observed in Hartford Parks this year where occasional branches of rhododendron are infested."

New York — E. P. Felt (June 23). "The rhododendron borer is reported as having caused considerable damage in an estate near Rochester. This insect also occurs in the vicinity of New York City."

ROSE

ROSE LEAF-BEETLE (Nodonota puncticollis Say)

Connecticut — F. A. Bartlett. "This insect, which seems to be new about Stamford, was identified by Dr. E. P. Felt."

New York — E. P. Felt (June 23). "This insect appears to be unusually abundant on roses and was reported as injuring apples in Dutchess County and numerous on roses in southern Westchester County."

ROSE SAWFLY (Caliroa aethiops Fab.)

Nebraska — M. H. Swenk (June 15). "During the first half of June there was an unusual abundance of European slugs on cultivated roses in eastern Nebraska."

H O U S E H O L D I N S E C T S

TERMITES (Reticulitermes flavipes Kol.)

Massachusetts — H. T. Fernald (June 22). "White ants were found in a store room in a paper mill at Holyoke; they had attacked a 500-pound case of paper and riddled it so badly that the paper was worthless."

Indiana — J. J. Davis (June 16). "White ants have continued to be reported as damaging houses and woodwork in the southern part of the State."

Kansas — E. G. Kelly (June 6). "These insects were reported as doing rather serious damage to dwellings in Albion, Manhattan, and Admire."

ANTS (Formicidae)

Michigan — R. H. Pettit (June 8). "Ants are very troublesome here this year, both in houses and in lawns. We have discovered a new departure in the preparation of ant poison. Often ant poison made of tartar emetic and honey, 1 part to 19, has failed because the tartar emetic settles to the bottom, especially if the honey has been heated too much. We stir the poison into the honey that is showing a tendency towards crystallizing, now and then add quite a bit of granulated sugar, stirring it in cold to aid crystallization. Honey that is prepared cold in this way and stirred in thoroughly holds the tartar emetic in suspension. Failures in the past have come from the poison settling down either in the container or in the dishes in which the poison has been offered to the ants."

FLEAS (Siphonaptera)

Indiana — H. F. Dietz (June 19). "Fleas have been unusually abundant in private dwellings. An outbreak in Indianapolis proved to be the cat and dog flea, Ctenocephalus canis, and an outbreak in Greenwood, the human flea, Pulex irritans."

A POWDER-POST BEETLE (Lyctus planicollis Lec.)

New York — C. R. Crosby (May 27). "This insect destroyed several dozen shovel handles at Hudson this spring."

DEATH WATCH (Anobium striatum Oliv.)

New York — C. R. Crosby (May 28). "A house at Walcott was very badly infested by this insect working in the woodwork."

LARDER BEETLE (Dermestes lardarius L.)

New York — C. R. Crosby (June 2). "Rather serious infestations of households in Utica and Skaneateles were reported within the past two days."

BLACK CARPET BEETLE (Attagenus piceus Oliv.)

New York — C. R. Crosby (May 23). "Infesting a house in Buffalo."

Delaware — C. O. Houghton (June 15). "This pest seems to be more numerous than usual here this season."

ORIENTAL ROACH (Blatta orientalis L.)

Indiana — H. F. Dietz (June 19). "This insect was reported very seriously abundant in the downtown districts of Lyons."

SPIDERS

Ohio — H. A. Gossard (May 26). "The manager of a summer hotel at Russell Point, Ohio, reported, May 1, that spiders had so taken possession of his building that he was compelled to seek information as to how to eradicate them."

BLACK FLIES (Simulium spp.)

New York — E. P. Felt (June 12). "Mr. G. B. Young reports that these insects are more numerous than they have been for years about Speculator in Herkimer County."

Louisiana — E. H. Jones (June). "Adults of this genus were observed to be common at Baton Rouge, especially early in the morning and late in the afternoon up to about June 4, when they apparently disappeared."

MOTTLED MALARIA MOSQUITO (Anopheles punctipennis Say)

Illinois — S. C. Chandler (May 20). "The first malaria mosquito clean-up campaign in Illinois is now under way. Adults of this mosquito have been found in considerable numbers and the first adults of A. quadrimaculatus were found on this date at Carbondale."

CHIGGERS (Trombidium sp.)

Mississippi — H. W. Allen (June 10). "Red bugs are generally reported as much more numerous and troublesome than last year."

INSECTS AFFECTING MAN AND DOMESTIC ANIMALS

CATTLE

HORN FLY (Haematobia irritans L.)

New York — E. P. Felt (May 24). "The horn fly is particularly numerous for this time of the year at Bainbridge in Chenango County."

Nebraska — M. H. Swenk (June 15). "In western Nebraska there seems to be present an unusual abundance of the horn fly during the present season."

OX WARBLE (Hypoderma lineata DeVill.)

New York — E. P. Felt. "Mr. L. W. Jones reports from Bainbridge in Chenango County that ox warble larvae are very abundant in backs of cattle."

Illinois — C. C. Compton. "Ninety per cent of the young stock in Stephenson County are infested from 5 to 30 warbles each, averaging from 7 to 8 warbles per animal."

POULTRY

ROSE-CHAFER (Macrodactylus subspinosus Fab.)

Massachusetts — H. T. Fernald (June 22). "A complaint of rose-chafer killing 10-week-old chicks near Springfield has been received. These chicks were apparently normal at night and were found dead the next morning. Examination of the crop showed from 5 to 20 rose-chafers, One chick was fed 16 chafers and died in three hours."

New York — E. P. Felt (June 23). "Mr. R. E. Horsey reports that the rose beetle in the vicinity of Rochester is very numerous on peach trees. A number of chicks died as a result of feeding upon these beetles."